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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,371	06/06/2001	Andreas Leupolz	843/49983	2725

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EXAMINER

COLLINS, TIMOTHY D

ART UNIT	PAPER NUMBER
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3643

DATE MAILED: 09/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/874,371

Applicant(s)

LEUPOLZ ET AL.

Examiner

Timothy D Collins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8. 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "capable of direct radiation exchange" renders the claim indefinite because it is unclear how the applicant intends this to limit the claim. This phrase seems to be used to state that the coating must be on the furthest most interior surface of an aircraft, however this would not allow for direct radiation exchange with a passenger, because there would still be air between the passenger and the coating. Therefore because there is air, it is not a direct exchange. For the purpose of examination on the merits, this statement will be taken as "capable of radiation exchange".

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 16-20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,976,702 to Yoneda et al. (herein after called 702).

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- a. Re claims 1, 18, and 20, 702 discloses applying a heat-reflecting coating with a low thermal emission coefficient to an interior surface of a cabin of an aircraft, in lines 19-24 of column 1, the coating being capable of direct radiation exchange with a passenger.
 - b. Re claims 2,3 and 4, 702 discloses that the coating is a transparent conductive coating of metal oxide, in lines 19-24 of column 1 and in lines 31-35 of column 9.
 - c. Re claim 16, 702 discloses that the coating is applied to lateral covering parts in lines 19-24 of column 1. This is seen in the statement of the coating being applied to other articles.
 - d. Re claim 17, 702 discloses that the interior surface of the airplane cabin comprises glazing and that the coating is on the glazing as seen in lines 19-24 of column 1. The glazing is taken as being the instrument panel surface.
 - e. Re claims 19 and 22, 702 discloses that the coating is applied to an interior cabin wall, in lines 19-24 of column 1, because the instrument panel is an interior cabin wall.
5. Claims 1,2,7,9 and 16-22 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by USPN 4,731,289 to Coleman (herein after called 289). 289 discloses in lines 60-62 of column 3 the stated features of claims 1,2,7,9 and 16-22.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,976,702 to Yoneda et al. (herein after called 702) as above and in view of USPN 6,178,034 to Allemand et al. (herein after called 034).

f. Re claim 5, 702 may not specifically disclose selecting a thickness to achieve a desired thermal emission coefficient, however 034 does disclose selecting a thickness of an ITO coating. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 034 into the device of 702 as above, so as to provide a coating that does not interfere with light transmission as taught in column 5 at lines 1-11. Further it would have been obvious to select a desired thermal emission coefficient, since it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ2d 1647 (1987).

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g. Re claim 6, 702 does not disclose that the thickness of the coating is less than 1 micron, but 034 does disclose this at lines 5-8 of column 5. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 034 into the device of 702 as above, so as to provide a coating that does not interfere with light transmission as taught in column 5 at lines 1-11.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,731,289 to Coleman (herein after called 289). 289 discloses that aircraft windows are made of PC and it is well known in the art that PMMA is an equivalent to PC. Therefore it would have been obvious to one of ordinary skill in the art to have used PMMA in place of PC for the well known advantages of PMMA, such as it being inexpensively bought under the name Plexiglas™.

8. Claims 13, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,976,702 to Yoneda et al. (herein after called 702) as above and in view of USPN 6,178,034 to Allemand et al. (herein after called 034) and further in view of USPN 6,055,088 to Fix et al. (herein after called 088).

a. Re claims 13, 14 and 15, 702 does not disclose that the coating has a thermal emission factor of less than 0.5, however 034 does disclose that the coating has a thermal emission factor of less than 0.5, inherently. 034 states that the coatings are IR blocking, and since IR energy is a form of thermal energy, therefore it can be taken that an IR blocking coating is a low thermal emission

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coating. From this it can then be said that the emission factor is less than 0.5 because 0.5 is the midpoint between perfect reflector (0) and a perfect emitter (1), meaning that a value of less than 0.5 would be blocking, and more than 0.5 would be able to transmit the IR energy. Therefore it would have been obvious to assign the value of thermal emissivity a 0.5 or less and more probably 0.1 - 0.3 for an IR or thermal blocking coating, so as to block the thermal energy as stated in 034 line 30 of column 4. For more proof of thermal blocking and the range of 0.1 – 0.3 see 088 in the examples in the tables throughout, all the thermal emissivities are less than 50 % (0.5) and most fall in the range of 0.1 – 0.3 or 10% to 30%.

9. Claims 7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,976,702 to Yoneda et al. (herein after called 702).

b. Re claims 7 and 21, 702 does not specifically disclose that the coating is on the interior of an aircraft window or that the window is plastic, however 702 does disclose that aircraft windows have the coating on them and it also discloses that aircraft interior surfaces of instrument panels have the coating on them. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 702 with respect to the interior coating of instrument panels into the windows so as to keep them clean as is the reason for the instrument panel as seen in column 1 at lines 19-24. It is also old and well known in the art that aircraft windows can be made of PMMA and PC and therefore it would have been obvious to one of ordinary skill in the art to have

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made the windows out of these materials which are plastic so as to allow them to be durable and cheap to produce as well as light weight.

10. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,976,702 to Yoneda et al. (herein after called 702) and in view of USPN 6,178,034 to Allemand et al. (herein after called 034).

c. Re claims 8 and 9, 702 does not disclose that the coating is applied to PMMA or PC or that windows are made of PMMA or of Polycarbonate (PC), however 034 does disclose that ITO coatings are applied to PMMA and PC in line 36 of column 14 and also in line 7 of column 4. Therefore it would have been obvious to one of ordinary skill in the art to have applied the coating to PMMA and PC for the reasons taught in 034. Also it is old and well known in the art that aircraft windows can be made of PMMA and PC and therefore it would have been obvious to one of ordinary skill in the art to have made the windows out of these materials so as to allow them to be durable and cheap to produce as well as light weight.

11. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,976,702 to Yoneda et al. (herein after called 702). and in view of USPN 6,092,915 to Rensch (herein after called 915).

a. Re claim 10, 702 as modified does not disclose that the interior of the aircraft has a decorative plastic foil or that the coating is applied to the foil, but 915 does disclose a plastic foil in an aircraft in lines 1-10 of column 3 and also in lines 39-43 of column 1. Therefore it would have been obvious to one of ordinary

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skill in the art to have applied the teachings of 915 into the device of 702 as modified above, so as to allow for the easy cleaning of interior cabin portions and other articles as taught in 702 at lines 19-24 of column 1.

b. Re claims 11 and 12, 702 does not disclose that the foil is made of PVF or PVDF however 915 does teach of PVF and PVDF, in lines 1-6 of column 3.

Therefore it would have been obvious to one of ordinary skill in the art to have made the foil out of these materials so as to make the foil flexible and easy to manufacture as well as to make it durable and shield light sources from view as taught in 915 in the abstract while also keeping the surfaces clean as taught in lines 19-24 of column 1 of 702.

Response to Arguments

12. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. USPN 4,692,809 discloses a surface coated in ITO.

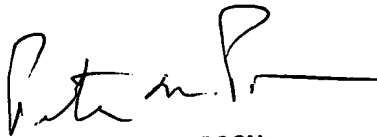
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy D Collins whose telephone number is 703-306-9160. The examiner can normally be reached on M-Th, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 703-308-2574. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3597 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-4180.

tdc
August 29, 2002



PETER M. POON
SUPERVISORY PATENT EXAMINER
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